workplace because gloves designed for one function may not protect against a different function even though they may appear to be an appropriate protective device.

The following are examples of some factors that may influence the selection of protective gloves for a workplace.

- Type of chemicals handled (toxic properties of the chemical(s)).
- Chemical concentration and temperature (the higher the concentration and temperature, the shorter the breakthrough time).
- Nature of contact (total immersion, continual contact, splash, etc.)
- Duration of contact.
- Area requiring protection (hand only, forearm, arm).
- Degree of dexterity (fine motor work).
- Grip requirements (dry, wet, oily).
- Thermal protection.
- Size and comfort.
- Abrasion/cut resistance requirements.
- Other job hazards (such as biological, electrical, and radiation hazards).
- Gloves made from a wide variety of materials are designed for many types of workplace hazards. In general, gloves fall into four groups:
  - Gloves made of leather, synthetic fibers or metal mesh.
  - Fabric and coated fabric gloves.
  - Chemical protective gloves.
  - Insulating rubber gloves (See 29 CFR 1910.137, Electrical Protective Equipment, for detailed requirements on the selection, use and care of insulating rubber gloves).

Leather, Synthetic Fiber or Metal Mesh Gloves

Sturdy gloves made from metal mesh, leather or canvas provide protection against cuts and burns. Leather or canvas gloves also protect against sustained heat.

- **Leather gloves** protect against sparks, moderate heat, blows, chips and rough objects. These gloves can be used for tasks such as welding.
- **Aluminized gloves** provide radiant heat protection by reflection and insulate/reduce heat conduction with a liner or insert. Employees working with molten materials would benefit from this type of glove.
- **Aramid fiber gloves** such as Kevlar, protect against heat, are cut- and abrasion-resistant and wear well. Employees working in jobs such as firefighting, automotive work, metal fabrication, glass and ceramic handling would benefit from this type of glove.
- **Synthetic gloves** of various materials offer protection against heat and cold, are cut- and abrasion-resistant and may withstand some diluted acids. These materials do not stand up against alkalis and solvents.
- **Metal mesh** hand, wrist, arm and finger protective wear protects against knife cuts; however, it offers very little, if any, protection against punctures. Plastic dots can be adhered to the metal mesh to facilitate gripping.

Fabric and Coated Fabric Gloves

Fabric and coated fabric gloves are made of cotton or other fabric to provide varying degrees of protection.

- **Fabric gloves** protect against dirt, slivers, chafing and abrasions. They do not provide sufficient protection for use with rough, sharp or heavy materials. Adding a plastic coating will strengthen some fabric gloves.
- **Coated fabric gloves** are normally made from cotton flannel with napping on one side. By coating the unnapped side with plastic, fabric gloves are transformed into general-purpose hand protection offering slip-resistant qualities. These gloves are used for tasks ranging from handling bricks and wire to chemical laboratory containers. When selecting gloves to protect against chemical exposure hazards, always check with the manufacturer or review the manufacturer's product literature to determine the gloves' effectiveness against specific workplace chemicals and conditions.